

OP - SF NET - Volume 17, Number 3 - May 15, 2010

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The Electronic News Net of the
SIAM Activity Group on Orthogonal Polynomials and Special Functions

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Calendar of Events:

May 27-28, 2010

From $A = B$ to $Z = 60$, a conference in honor of Doron Zeilberger's 60th birthday, Rutgers University, Piscataway, NJ, USA 16.5 #1

<http://math.rutgers.edu/events/Z60/>

June 1-4, 2010

Conference on Random matrices, Centre de Mathématiques de Jussieu / Chevaleret, Paris, France

<http://tinyurl.com/randommatrices2010>

June 14-18, 2010

Symmetries and Integrability of Difference Equations (SIDE-9), Varna, Bulgaria
<http://old.inrne.bas.bg/SIDE-9/>

June 21-23, 2010

Conference on Special Functions and their Applications - CSFA 2010, Gwalior, India
<http://www.ssfaindia.webs.com/conf.htm>

June 21-25, 2010

"Functions and Operators", Krakow, Poland.
<http://www.im.uj.edu.pl/fao2010>

June 24-27, 2010

ACA'10, Applications of Computer Algebra, including Special session on Computation of Special Functions, Vlore, Albania
<http://aca2010.info/index.php/aca2010/aca2010>

July 4-7, 2010

Seventh international conference on Lattice Path Combinatorics and Applications, Siena, Italy
http://www.unisi.it/eventi/lattice_path_2010

July 4-9, 2010

First Jaen Conference on Approximation, Ubeda, Spain 17.2 #4
<http://www.ujaen.es/revista/jja>

July 5-9, 2010

Orthogonal Polynomials in Probability Theory, Texas A&M University, College Station, Texas, USA 17.1 #1
<http://www.math.tamu.edu/~manshel/OPPT/main.html>

July 5-9, 2010

ICCAM-2010, International Congress on Computational and Applied Mathematics, Leuven, Belgium
<http://www.iccam.ugent.be/>

July 12-15, 2010

OPW - Orthogonal Polynomials, applications in Statistics and Stochastic Processes, Warwick, UK 17.2 #5
<http://tinyurl.com/OPWWarwick2010>

July 12-16, 2010

SIAM Annual Meeting, Pittsburgh, Pennsylvania, USA
<http://www.siam.org/meetings/an10/index.php>

July 12-16, 2010

International Workshop on Operator Theory and its Applications (IWOTA 2010), Technische Universität Berlin, Germany
http://www3.math.tu-berlin.de/iwota_2010/

July 17-22, 2010

Sage Days 24 - Symbolic Computation in Differential Algebra and Special Functions, RISC. Hagenberg, Austria 17.3 #3
<http://wiki.sagemath.org/days24>

July 19-23, 2010

16th International Conference on Difference Equations and Applications, Riga, Latvia
<http://icdea2010.lu.lv/>

July 25 - 28, 2010

International Symposium on Symbolic and Algebraic Computation (ISSAC 2010), Technische Universität München, München, Germany
<http://www.issac-conference.org/2010/>

August 2-6, 2010

Formal Power Series and Algebraic Combinatorics 2010
San Francisco State University, San Francisco, CA, USA
<http://math.sfsu.edu/fpsac>

August 16-December 17, 2010

MSRI Future Scientific Programs: Random Matrix Theory, Interacting Particle Systems and Integrable Systems
Mathematical Sciences Research Institute, Berkeley, California
www.msri.org/calendar/programs/ProgramInfo/259/show_program

August 18-21, 2010

International Congress in Honour of Professor H. M. Srivastava on his 70th Birth Anniversary at Uludag University, Bursa, Turkey
<http://homepage.uludag.edu.tr/~srivastava/>

August 19-27, 2010

International Congress of Mathematicians, Hyderabad, India
<http://www.icm2010.org.in/>

September 1-3, 2010

Workshop on "Integral Transforms, Positivity and Applications", Copenhagen, Denmark 17.3 #4
www.matdat.life.ku.dk/~henrikp/witpa/

September 13-17, 2010

Random Matrix Theory and Its Applications I
Mathematical Sciences Research Institute, Berkeley, California
www.msri.org/calendar/workshops/WorkshopInfo/508/show_workshop

September 17-19, 2010

Symmetry, Separation, Super-integrability and Special Functions (S4)
Conference, in honor of Willard Miller on the occasion of his
retirement, University of Minnesota, Minneapolis, MN, USA, 16.6 #1
<http://math.umn.edu/conferences/s4/>

September 19-25, 2010

International Conference of Numerical Analysis and Applied Mathematics 2010
(ICNAAM 2010), Island of Rhodes, Greece
<http://www.icnaam.org/>

September 20-21, 2010

MSRI-Connections for Women: An Introduction to Random Matrices
Mathematical Sciences Research Institute, Berkeley, California
www.msri.org/calendar/workshops/WorkshopInfo/509/show_workshop

October 10-15, 2010

New Perspectives in Univariate and Multivariate Orthogonal Polynomials,
Banff International Research Station, Alberta, Canada 17.2 #6
http://www.birs.ca/birspages.php?task=displayevent&event_id=10w5061

December 6-10, 2010

MSRI-Random Matrix Theory and its Applications II
Mathematical Sciences Research Institute, Berkeley, California
http://www.msri.org/calendar/workshops/WorkshopInfo/517/show_workshop

January 3-5, 2011

ICMS-2011, International Conference on Mathematical Sciences in honour of
Professor A. M. Mathai, Kottayam, Kerala, India 17.2 #10

June 5-11, 2011

Computational Complex Analysis and Approximation Theory (CCAAT 2011).
in honor of Professor Nicolas Papamichael, Protaras, Cyprus
<http://www.cyprusconferences.org/ccaat/>

July 18-22, 2011

ICIAM 2011 - 7th International Congress on Industrial and Applied Mathematics,
Vancouver, Canada
<http://www.iciam2011.com>

July 24-29, 2011

Complex Analysis, Operator and Approximation Theories, Conference
dedicated to the memory of Franz Peherstorfer, Linz, Austria
<http://www.caoat2011.jku.at/>

Topic #1 ----- OP-SF NET 17.3 ----- May 15, 2010

From: Francisco J. Marcellán pacomarc@ing.uc3m.es
Subject: Message from the Chair

[This is a slightly revised version of a message sent to OPSF Talk on April 29, 2010. Eds.]

Dear members of SIAG OPSF:

The distribution of OPSF-Talk has been transferred successfully from the NIST server to the SIAM server. As I announced in OP-SF NET 17.2 in March, one advantage for us is that SIAM will make sure the active membership of our group is always up-to-date on the mailing list. Also, we will have the authority to add anyone else. I hope that feedback from you to the Board will improve our activities. Hence, we would like to receive your comments and suggestions concerning our Group's Charter Renewal Application (below). Thus, your answers and remarks can be incorporated in the document that we (the board) must complete and approve before May 31. We must send the document to SIAM officials before June 12.

Thus, the game is started and you are the players....

Francisco Marcellán
Chair.

CHARTER RENEWAL APPLICATION

This CHARTER RENEWAL APPLICATION refers to the SIAM Activity Group on Orthogonal Polynomials and Special Functions (SIAG/OPSF). This SIAM Activity Group (or SIAG) was formed under the aegis of SIAM on July 15, 1990 by the SIAM Council and on July 19, 1990 by the SIAM Board of Trustees, its initial operating period beginning January 1, 1990 and ending December 31, 1992. Its charter was renewed by the Council and Board six times thereafter. This SIAG had 150 members as of December 31, 2009.

According to its Rules of Procedure, the objective(s) of the SIAG are to promote basic research in orthogonal polynomials and special functions; to further the application of this subject in other parts of mathematics, and in science and industry; and to encourage and support the exchange of information, ideas, and techniques between workers in this field, and other mathematicians and scientists. Its proposed functions were to:

- 1) Organize minisymposia at the SIAM Annual Meeting in years where there is no SIAG conference.
- 2) Organize a set of at least six minisymposia at the SIAM Annual Meeting at least once every five years.

This SIAG does not have a regularly scheduled conference, though there is a biennial conference on "Orthogonal Polynomials, Special Functions and Applications" which essentially serves as one.

The SIAG has complemented SIAM's activities and supported its proposed functions. The answers to the questions below indicate how this was accomplished and what the officers propose as the future directions for the Group.

1. How is the field covered by the activity group doing? Is it growing, is the focus shifting? What have been the significant advances over the last three years?
2. How is the activity group doing? Is it remaining vibrant? Is the size of the SIAG stable or increasing? How is the SIAG keeping up with the changes in the field? How are the broader interests of SIAM reflected in the activities of the SIAG?
3. Please list conferences/workshops the activity group has sponsored or co-sponsored over the past three years, and give a brief (one sentence or phrase) indication of the success or problems with each.
4. Please indicate the number of minisymposia directly organized by the activity group at the last two SIAM annual meetings. When did the SIAG last organize a tract of minisymposia at an annual meeting?
5. Please indicate other activities sponsored by the activity group, to include newsletters, prizes and Web sites. Have each of these been active and successful?
6. What activities are planned and proposed for the next period of the charter? Please describe scheduled and suggested future activities in detail.
7. How can SIAM help the activity group achieve its goals?
8. How can the activity group help SIAM in its general role of promoting applied mathematics and computational science?

This SIAG requests that the SIAM Council and Board of Trustees renew its charter for a three-year operating period beginning January 1, 2011.

Topic #2 ----- OP-SF NET 17.3 ----- May 15, 2010

From: Francisco J. Marcellán pacomarc@ing.uc3m.es
Subject: Election of Officers, 2011-2013

The terms of office of the present officers will end on December 31, 2010 so we have to hold an election for their successors for the period January 1, 2011 to December 31, 2013. The current officers have made some suggestions to SIAM concerning the membership of a Nominating Committee which will start this process.

Topic #3 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF Editors

Subject: Sage Days 24 at RISC, near Linz, Austria

A workshop on **Symbolic Computation in Differential Algebra and Special Functions** will be held during July 17 - 22, 2010 at RISC (Research Institute for Symbolic Computation) in Hagenberg (near Linz), Austria.

The aim of this workshop is to

- provide a gentle introduction to Sage (installation, features, tutorials on basic usage and development), and
- bring differential algebra, special functions and symbolic computation communities together, to improve the facilities provided by Sage to support research in these fields.

Besides mathematical talks and coding sprints, there will also be introductory tutorials on Sage, Python and related topics, including development in Sage. The workshop will be accessible to researchers at all levels. Especially those looking for an opportunity to start learning / using Sage are welcome.

This event is a part of RISC Summer 2010

Invited Speakers: Peter Paule, Alban Quadrat, William Stein, Nico Temme, Felix Ulmer.

For further information, see

<http://wiki.sagemath.org/days24>

Topic #4 ----- OP-SF NET 17.3 ----- May 15, 2010

From: Henrik Laurberg Pedersen henrikp@life.ku.dk

Subject: Copenhagen Workshop on Integral Transforms, Positivity and Applications

We are happy to announce a workshop on "Integral Transforms, Positivity and Applications" to be held in Copenhagen, September 1-3, 2010.

The program includes plenary talks by

- * Lennart Bondesson, University of Umeå, Sweden
- * Jonathan Breuer, Hebrew University of Jerusalem, Israel
- * Stamatis Koumandos, University of Cyprus, Cyprus
- * Ester Pérez Sinuía, University of Zaragoza, Spain
- * Feng Qi, Tianjin Polytechnic University, China
- * Paul Ressel, University of Eichstätt, Germany
- * Zoltan Sasvari, Technical University of Dresden, Germany
- * Martin Schlather, University of Göttingen, Germany
- * Wolfgang zu Castell, Helmholtz Zentrum München, Germany

The workshop will take place at the Department of Basic Sciences and Environment at the Faculty of Life Sciences of University of Copenhagen. The campus of the Faculty of Life Sciences is situated in central Copenhagen.

For more information and registration we refer to www.matdat.life.ku.dk/~henrikp/witpa/

Deadline for registration is on August 1, 2010.

The workshop is organized by Christian Berg, Jacob Stordal Christiansen and Henrik Laurberg Pedersen.

Topic #5 ----- OP-SF NET 17.3 ----- May 15, 2010

From: Walter Van Assche walter@wis.kuleuven.be
Subject: Franz Peherstorfer 1950-2009

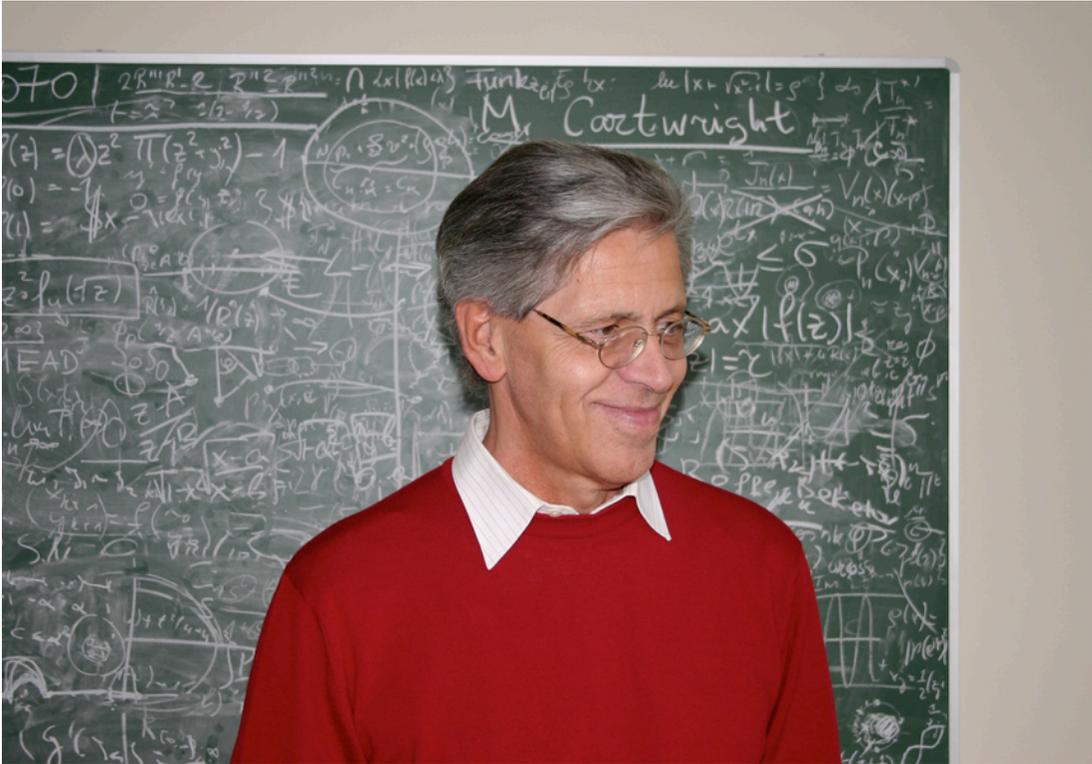
People in the orthogonal polynomials community were deeply shocked to learn that Franz Peherstorfer died on November 27, 2009. Franz died from lung cancer during chemotherapy in a hospital near Linz, Austria.

He was born in Zwettl an der Rodl, a village near Linz, on July 26, 1950. He obtained his university degrees at the Johannes Kepler Universität in Linz (Master 1975, Ph.D. 1977 with Paul Otto Runck as his advisor, Habilitation in 1982). Franz remained at Johannes Kepler Universität and was the head of the Group for Dynamical Systems and Approximation Theory. Franz had six Ph.D. students: Clemens Inninger, Ionela Moale, Klaus Schiefermayr, Werner Schwyhla, Robert Steinbauer, and Christoph Stroh.

His scientific interests were in orthogonal polynomials, interpolation and numerical integration, extremal problems of best approximation, Julia sets, Toda lattices and integrable systems. His work on orthogonal polynomials on several intervals and several arcs of the unit circle is quite impressive. He served as associate editor of *Journal of Approximation Theory*, *Computational Methods and Function Theory*, and *Kragujevac Journal of Mathematics*. More than 100 of his papers have been published and some of his last papers are on the arXiv: http://arxiv.org/find/math/1/au:+Peherstorfer_F/0/1/0/

Franz was one of the lecturers at the Summer School on Orthogonal Polynomials and Special Functions in Coimbra, Portugal in 2003, where he gave a series of lectures on *Orthogonal and L_a -extremal polynomials on inverse images of polynomial mappings*. These lectures were published in the Coimbra Lecture Notes on Orthogonal Polynomials (A. Branquinho, A. Foulquié Moreno, eds., Nova Science Publishers, New York, 2008).

The last time I met him was at the 10th International Symposium on Orthogonal Polynomials, Special Functions and Applications in Leuven, Belgium (July 2009) where he gave a talk on *Orthogonal polynomials on several intervals: accumulation points of recurrence coefficients and zeros outside the spectrum*. Nothing indicated that only a few months later he would no longer be doing mathematics.



A conference *Complex Analysis, Operator and Approximation Theories*, dedicated to the memory of Franz Peherstorfer: will be held at Johannes Kepler Universität in Linz on July 24-28, 2011, the days surrounding his birthday (July 26). See <http://www.caoat2011.jku.at/> for more information.

Some of this information was taken from a more extensive obituary which will appear in *Journal of Approximation Theory*.

[The editors thank Peter Yuditskii for permission to reproduce the above photo of Franz Peherstorfer.]

Topic #6 ----- OP-SF NET 17.3 ----- May 15, 2010

From: Dan Lozier daniel.lozier@nist.gov
Subject: DLMF Released by NIST and Cambridge University Press

The full public release of the Digital Library of Mathematical Functions was announced by NIST on May 11. See

http://www.nist.gov/itl/math/math_051110.cfm

where the NIST announcement can be found. The announcement is accompanied by a short promotional video. The URL for the DLMF is <http://dlmf.nist.gov>.

There is also a print edition, the NIST Handbook of Mathematical Functions (Olver, Lozier, Boisvert and Clark, eds.), just published by Cambridge University Press in soft and hard cover. The Cambridge volumes all contain a CD that provides a PDF of the whole book. The PDF is searchable and has active links. Otherwise it is identical to the printed Handbook. See <http://www.cambridge.org/uk/catalogue/catalogue.asp?isbn=9780521140638>

In 36 chapters, the DLMF and Handbook cover important properties of special functions and orthogonal polynomials, together with relevant accounts of algebraic, analytical, and numerical methods. Among its distinguishing features, the DLMF provides 3D zoomable and rotatable graphs, links to available numerical software, and much more powerful searching compared to the PDF.

The DLMF is the result of more than 10 years of work by editors and staff at NIST, an external board of associate editors, and 39 authors and validators who were compensated by NIST to prepare the mathematical and other technical content. Together with Frank Olver, the Mathematics Editor, I wish to express my gratitude for the dedication and hard work of all the project participants.

The project was supported, in part, by NSF Award 980036.

Topic #7 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF Editors
Subject: Book on Hypergeometric Orthogonal Polynomials and their q-Analogues

The following information is taken from the web site <http://www.springer.com/>

Hypergeometric Orthogonal Polynomials and Their q-Analogues
Series: Springer Monographs in Mathematics
Authors: Koekoek, Roelof, Lesky, Peter A., Swarttouw, René F.

Foreword by Tom Koornwinder
1st Edition, 2010, XIX, 578 p., Hardcover
ISBN: 978-3-642-05013-8
Available: August 2010
\$129.00

Content Level » Research
Keywords » 33C45; 33D45 - Askey scheme - basic hypergeometric functions - hypergeometric functions - orthogonal polynomials - q-orthogonal polynomials

The entire book is available for download purchase in electronic form at <http://www.springerlink.com/content/978-3-642-05013-8>
There is no charge for the Front Matter and Back Matter, including Foreword, Preface, Contents, Bibliography and Index.

Topic #8 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF Editors
Subject: Book on Skew-Orthogonal Polynomials and Random Matrix Theory

From the web site
<http://www.ams.org/bookstore/>

Skew-Orthogonal Polynomials and Random Matrix Theory

Saugata Ghosh, Gurgaon, India

A co-publication of the AMS and Centre de Recherches Mathématiques.

CRM Monograph Series

2009; 127 pp; hardcover
Volume: 28
ISBN-10: 0-8218-4878-X
ISBN-13: 978-0-8218-4878-4
List Price: US\$51

Orthogonal polynomials satisfy a three-term recursion relation irrespective of the weight function with respect to which they are defined. This gives a simple formula for the kernel function, known in the literature as the Christoffel-Darboux sum. The availability of asymptotic results of orthogonal polynomials and the simple structure of the Christoffel-Darboux sum make the study of unitary ensembles of random matrices relatively straightforward. In this book, the author develops the theory of skew-orthogonal polynomials and obtains recursion relations which, unlike orthogonal polynomials, depend on weight functions. After deriving reduced expressions, called the generalized Christoffel-Darboux formulas (GCD), he obtains universal correlation functions and non-universal level densities for a wide class of random matrix ensembles using the GCD.

The author also shows that once questions about higher order effects are considered (questions that are relevant in different branches of physics and mathematics) the use of the GCD promises to be efficient. Titles in this series are co-published with the Centre de Recherches Mathématiques.

Readership: Research mathematicians interested in random matrix theory.

Topic #9 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF NET Editors
Subject: Book on Zeros of Entire Functions

The following information is from
<http://www.routledge-ny.com/books/details/9781439800324/>

Localization and Perturbation of Zeros of Entire Functions
By Michael Gil'

- Price: \$161.96
- ISBN: 978-1-4398003-2-4
- Publish Date: December 4th 2009
- Imprint: Chapman & Hall
- Pages: 312 pages

Series: Lecture Notes in Pure and Applied Mathematics

Topic #10 ----- OP-SF NET 17.3 ----- May 15, 2010

From: Elsevier Mathematics mathematics@els001.email-reaction.net
Subject: JCAM Aims and Scope

The Journal of Computational and Applied Mathematics has recently changed its Aims and Scope. The new, updated Aims and Scope are:

The Journal of Computational and Applied Mathematics publishes original papers of high scientific value in all areas of computational and applied mathematics. The main interest of the Journal is in papers that describe and analyze new computational techniques for solving scientific or engineering problems. Also the improved analysis, including the effectiveness and applicability, of existing methods and algorithms is of importance. The computational efficiency (e.g. the convergence, stability, accuracy) should be proved and illustrated by nontrivial numerical examples. Papers describing only variants of existing methods, without adding significant new computational properties are not of interest.

The Journal also publishes short communications and comments of at most 4 journal pages. The audience consists of : applied mathematicians, numerical analysts, computational scientists and engineers.

All manuscripts should still be submitted via the journal's editorial handling system (<http://ees.elsevier.com/cam>).

Topic #11 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF NET Editors
Subject: Preprints in arXiv.org

The following preprints related to the fields of orthogonal polynomials and special functions were posted or cross-listed to one of the subcategories of arXiv.org mostly during March and April 2010.

<http://arxiv.org/abs/1003.0852>

Relative asymptotics for orthogonal matrix polynomials
Authors: [A. Branquinho](#), [F. Marcellán](#), [A. Mendes](#)

<http://arxiv.org/abs/1003.3212>

Bender-Dunne Orthogonal Polynomials, Quasi-Exact Solvability and Asymptotic Iteration Method for Rabi Hamiltonian
Authors: [S.-A. Yahiaoui](#), [M. Bentaiba](#)

<http://arxiv.org/abs/1003.3336>

A new approach to the asymptotics for Sobolev orthogonal polynomials
Authors: [M. Alfaro](#), [J.J. Moreno-Balcazar](#), [A. Pena](#), [M.L. Rezola](#)

<http://arxiv.org/abs/1003.4612>

The semiclassical-Sobolev orthogonal polynomials: a general approach
Authors: [R.S. Costas-Santos](#), [J.J. Moreno-Balcázar](#)

<http://arxiv.org/abs/1003.4692>

Asymptotic zero distribution of multiple orthogonal polynomials associated with Macdonald functions
Authors: [Lun Zhang](#), [Pablo Román](#)

<http://arxiv.org/abs/1003.5131>

n-Kernel Orthogonal Polynomials on the Dirichlet, Dirichlet-Multinomial, Poisson-Dirichlet and Ewens' sampling distributions, and positive-definite sequences

<http://arxiv.org/abs/1003.5501>

On L^2 -eigenfunctions of Twisted Laplacian on curved surfaces and suggested orthogonal polynomials
Authors: [Allal Ghanmi](#)

<http://arxiv.org/abs/1004.0846>

Multiple orthogonal polynomials in random matrix theory

Authors: [Arno B.J. Kuijlaars](#)

<http://arxiv.org/abs/1004.1795>

Weighted exponential approximation and non-classical orthogonal spectral measures

Authors: [Alexander Borichev](#), [Mikhail Sodin](#)

<http://arxiv.org/abs/1004.3212>

Dimers and orthogonal polynomials: connections with random matrices

Authors: [Patrik L. Ferrari](#)

<http://arxiv.org/abs/1004.3916>

Multiple orthogonal polynomials of mixed type: Gauss-Borel factorization and the multi-component 2D Toda hierarchy

Authors: [Carlos Álvarez-Fernández](#), [Ulises Fidalgo Prieto](#), [Manuel Mañas](#)

<http://arxiv.org/abs/1003.3292>

Identities of symmetry for Euler polynomials arising from quotients of fermionic integrals invariant under S_3

Authors: [Dae San Kim](#), [Kyoung Ho Park](#)

<http://arxiv.org/abs/1003.3296>

Identities of symmetry for Bernoulli polynomials arising from quotients of Volkenborn integrals invariant under S_3

Authors: [Dae San Kim](#), [Kyoung Ho Park](#)

<http://arxiv.org/abs/1003.3297>

Identities of symmetry for q -Bernoulli polynomials

Authors: [Dae San Kim](#)

<http://arxiv.org/abs/1003.3298>

Identities of symmetry for generalized Bernoulli polynomials

Authors: [Dae San kim](#)

<http://arxiv.org/abs/1003.3300>

Identities of symmetry for generalized twisted Bernoulli polynomials twisted by ramified roots of unity

Authors: [Dae San Kim](#)

<http://arxiv.org/abs/1003.4072>

Identities of symmetry for generalized Euler polynomials

Authors: [Dae San Kim](#)

<http://arxiv.org/abs/1003.5216>

An interesting application of Gegebauer Polynomials

Authors: [Susanna Dann](#)

<http://arxiv.org/abs/1003.5252>

Symmetry identities for generalized twisted Euler polynomials twisted by ramified roots of unity

Authors: [Dae San Kim](#)

<http://arxiv.org/abs/1003.4628>

Efficient Construction, Update and Downdate Of The Coefficients Of Interpolants Based On Polynomials Satisfying A Three-Term Recurrence Relation

Authors: [Pedro Gonnet](#)

<http://arxiv.org/abs/1003.1512>

Clifford-Gegenbauer polynomials related to the Dunkl Dirac operator

Authors: [H. De Bie](#), [N. De Schepper](#)

<http://arxiv.org/abs/1004.1052>

A generating function for Hermite polynomials in connection with Euclidean Landau levels

Authors: [Zouhair Mouayn](#)

<http://arxiv.org/abs/1004.1477>

Identities of symmetry for q-Euler polynomials

Authors: [Dae San Kim](#)

<http://arxiv.org/abs/1004.3589>

A new class of coherent states with Meixner-Pollaczek polynomials for the Gol'dman-Krivchenkov Hamiltonian

Authors: [Zouhair Mouayn](#)

<http://arxiv.org/abs/1004.4038>

Identities of symmetry for generalized twisted Bernoulli polynomials twisted by unramified roots of unity

Authors: [Dae San Kim](#)

<http://arxiv.org/abs/1004.4711>

Exceptional Laguerre and Jacobi polynomials and the corresponding potentials through Darboux-Crum Transformations

Authors: [Ryu Sasaki](#), [Satoshi Tsujimoto](#), [Alexei Zhedanov](#)

<http://arxiv.org/abs/1004.5466>

On computing factors of cyclotomic polynomials

Authors: [Richard P. Brent](#)

<http://arxiv.org/abs/1004.0544>

Exceptional Askey-Wilson type polynomials through Darboux-Crum transformations

Authors: [Satoru Odake](#), [Ryu Sasaki](#)

<http://arxiv.org/abs/1003.6020>

More accurate approximations for the Gamma function

Authors: [Gergő Nemes](#)

<http://arxiv.org/abs/1003.1628>

Having Fun with Lambert $W(x)$ Function

Authors: [Darko Veberic](#)

<http://arxiv.org/abs/1003.4967>

New representations of π and Dirac delta using the nonextensive-statistical-mechanics q -exponential function

Authors: [M. Jauregui](#), [C. Tsallis](#)

<http://arxiv.org/abs/1003.0059>

Zeros of the Riemann zeta function on the critical line

Authors: [Shaoji Feng](#)

<http://arxiv.org/abs/1003.0697>

New definitions of exponential, hyperbolic and trigonometric functions on time scales

Authors: [Jan L. Cieslinski](#)

<http://arxiv.org/abs/1003.0752>

On gaps between zeros of the Riemann zeta function

Authors: [Shaoji Feng](#), [Xiaosheng Wu](#)

<http://arxiv.org/abs/1003.1157>

A Trace Formula for Certain Hecke Operators and Gaussian Hypergeometric Functions

Authors: [Catherine Lennon](#)

<http://arxiv.org/abs/1003.1965>

All-order epsilon-expansions of hypergeometric functions of one variable

Authors: [Mikhail Yu. Kalmykov](#) (Hamburg U., Inst. Theor. Phys. II & Dubna, JINR), [Bernd A.Kniehl](#) (Hamburg U., Inst. Theor. Phys. II)

<http://arxiv.org/abs/1003.2060>

Zeros of the Hurwitz zeta function in the interval $(0,1)$

Authors: [Davide Schipani](#)

<http://arxiv.org/abs/1003.2699>

An integral formula for L^2 -eigenfunctions of a fourth order Bessel-type differential operator

Authors: [Toshiyuki Kobayashi](#), [Jan Möllers](#)

<http://arxiv.org/abs/1003.2927>

Universal elliptic functions

Authors: [Yoshihiro Onishi](#)

<http://arxiv.org/abs/1003.4433>

On certain explicit congruences for mock theta functions

Authors: [Matthias Waldherr](#)

<http://arxiv.org/abs/1003.4592>

New rapidly converging series representations for values of the Riemann zeta function and the Dirichlet beta function

Authors: [Donal F. Connon](#)

<http://arxiv.org/abs/1004.0578>

Rational approximations for values of the digamma function and a denominators conjecture

Authors: [Khodabakhsh Hessami Pilehrood](#), [Tatiana Hessami Pilehrood](#)

<http://arxiv.org/abs/1004.1558>

On the zeros of the cylinder functions

Authors: [Tamas Palmai](#)

<http://arxiv.org/abs/1004.2437>

The integrals in Gradshteyn and Ryzhik. Part 12: Some logarithmic integrals

Authors: [Victor H. Moll](#), [Ronald A. Posey](#)

<http://arxiv.org/abs/1004.2439>

The integrals in Gradshteyn and Ryzhik. Part 13: Trigonometric forms of the beta function

Authors: [Victor H. Moll](#)

<http://arxiv.org/abs/1004.2440>

The integrals in Gradshteyn and Ryzhik. Part 14: An elementary evaluation of entry 3.411.5

Authors: [Tewodros Amdeberhan](#), [Victor H. Moll](#)

<http://arxiv.org/abs/1004.2445>

The Cauchy-Schlömilch transformation

Authors: [T. Amdeberhan](#), [M. L. Glasser](#), [M. C. Jones](#), [V. H. Moll](#), [R. Posey](#), [D. Varela](#)

<http://arxiv.org/abs/1004.3621>

Unrestricted algorithms for elementary and special functions

Authors: [Richard P. Brent](#)

<http://arxiv.org/abs/1004.3696>

Emergence of a singularity for Toeplitz determinants and Painlevé V

Authors: [T. Claeys](#), [A. Its](#), [I. Krasovsky](#)

<http://arxiv.org/abs/1004.4143>

On the zeros of the Riemann Zeta function

Authors: [Lazhar Fekih-Ahmed](#)

<http://arxiv.org/abs/1004.0059>

A particular solution of a Painlevé system in terms of the hypergeometric function ${}_nF_{n+1}$

Authors: [Takao Suzuki](#)

<http://arxiv.org/abs/1003.3730>

Felder's elliptic quantum group and elliptic hypergeometric series on the root system A_n

Authors: [Hjalmar Rosengren](#)

<http://arxiv.org/abs/1003.4421>

Gaussian Hypergeometric Evaluations of Traces of Frobenius for Elliptic Curves

Authors: [Catherine Lennon](#)

<http://arxiv.org/abs/1003.4491>

Elliptic hypergeometric terms

Authors: [V. P. Spiridonov](#)

<http://arxiv.org/abs/1003.4784>

Factorization of the hypergeometric-type difference equation on the uniform lattice

Authors: [R. Álvarez-Nodarse](#), [N. M. Atakishiyev](#), [R. S. Costas-Santos](#)

<http://arxiv.org/abs/1003.4853>

Factorization of the hypergeometric-type difference equation on the non-uniform lattices: dynamical algebra

Authors: [R. Álvarez-Nodarse](#), [N. M. Atakishiyev](#), [R. S. Costas-Santos](#)

<http://arxiv.org/abs/1003.5279>

Factorization method for difference equations of hypergeometric type on nonuniform lattices

Authors: [R. Álvarez-Nodarse](#), [R. S. Costas-Santos](#)

<http://arxiv.org/abs/1004.3941>

Asymptotic analysis of a Selberg-type integral via hypergeometrics

Authors: [Christian Krattenthaler](#) (Universität Wien)

<http://arxiv.org/abs/1004.1347>

From KP/UC hierarchies to Painlevé equations

Authors: [Teruhisa Tsuda](#)

<http://arxiv.org/abs/1004.3001>

A comparative analysis of Painlevé, Lax Pair, and Similarity Transformation methods in obtaining the integrability conditions of nonlinear Schrödinger equations

Authors: [U. Al Khawaja](#)

Topic #12 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF NET Editors

Subject: Correction to OP-SF NET 17.1, Topic #6 (Legendre portrait)

In the note about the mistaken portrait of Legendre, there was an error in the link provided to the work of Gérard P. Michon. The corrected link is <http://www.numericana.com/answer/record.htm#legendre>

Topic #13 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF NET Editors

Subject: About the Activity Group

The SIAM Activity Group on Orthogonal Polynomials and Special Functions consists of a broad set of mathematicians, both pure and applied. The Group also includes engineers and scientists, students as well as experts. We have around 150 members scattered about in more than 20 countries. Whatever your specialty might be, we welcome your participation in this classical, and yet modern, topic. Our WWW home page is:

<http://math.nist.gov/opsf/>

This is a convenient point of entry to all the services provided by the Group. Our Webmaster is Bonita Saunders (bonita.saunders@nist.gov).

The Activity Group sponsors OP-SF NET, an electronic newsletter, and SIAM-OPSF (OP-SF Talk), a listserv, as a free public service; membership in SIAM is not required. OP-SF NET is transmitted periodically through a post to OP-SF Talk. The OP-SF Net Editors are Diego Dominici (dominicd@newpaltz.edu) and Martin Muldoon (muldoon@yorku.ca).

Back issues of OP-SF NET can be obtained at the WWW addresses:

<http://staff.science.uva.nl/~thk/opsfnet>

<http://math.nist.gov/~DLozier/OPSFnet/>

For several years the Activity Group sponsored a printed Newsletter, most recently edited by Rafael Yanez. Back issues are accessible at:

<http://www.mathematik.uni-kassel.de/~koepf/siam.html>

SIAM-OPSF (OP-SF Talk), which was recently moved to a SIAM server, facilitates communication among members and friends of the Activity Group. To subscribe, go to <http://lists.siam.org/mailman/listinfo/siam-OPSF>. To contribute an item to the discussion, send email to siam-opsf@siam.org. The archive of all messages can be found by following links at <http://siam.org/activity/listservs.php>. The moderators are Bonita Saunders (bonita.saunders@nist.gov) and Diego Dominici (dominicd@newpaltz.edu).

SIAM has several categories of membership, including low-cost categories for students and residents of developing countries. For current information on SIAM and Activity Group membership, contact:

Society for Industrial and Applied Mathematics

3600 University City Science Center

Philadelphia, PA 19104-2688 USA

phone: +1-215-382-9800

email: service@siam.org

WWW : <http://www.siam.org>

<http://www.siam.org/membership/outreachmem.htm>

Topic #14 ----- OP-SF NET 17.3 ----- May 15, 2010

From: OP-SF NET Editors

Subject: Submitting contributions to OP-SF NET and SIAM-OPSF (OP-SF Talk)

To contribute a news item to OP-SF NET, send email to one of the OP-SF Editors dominicd@newpaltz.edu or muldoon@yorku.ca . Contributions to OP-SF NET 17.4 should be sent by July 1, 2010.

OP-SF NET is an electronic newsletter of the SIAM Activity Group on Special Functions and Orthogonal Polynomials. We disseminate your contributions on anything of interest to the special functions and orthogonal polynomials community. This includes announcements of conferences, forthcoming books, new software, electronic archives, research questions, and job openings. OP-SF NET is transmitted periodically through a post to SIAM-OPSF (OP-SF Talk).

OP-SF Talk is a listserv of the SIAM Activity Group on Special Functions and Orthogonal Polynomials which facilitates communication among members and friends of the Activity Group. See the previous Topic. To post an item to the listserv, send email to siam-opsf@siam.org .

WWW home page of this Activity Group:

<http://math.nist.gov/opsf/>

Information on joining SIAM and this activity group: service@siam.org

The elected Officers of the Activity Group (2008-2010) are:

Francisco J. Marcellán , Chair

Peter A. Clarkson, Vice Chair

Daniel W. Lozier, Secretary

Peter A. McCoy, Program Director

The appointed officers are:

Diego Dominici, OP-SF NET co-editor and OP-SF Talk moderator

Martin Muldoon, OP-SF NET co-editor

Bonita Saunders, Webmaster and OP-SF Talk moderator